REMARKS

The claims have been amended with a view to overcoming the overcoming the Examiner's formal objections. It is noted in this respect that the step i) – iv) were correctly numbered in the amended claims as supplied with Applicants response of 7- 18-02. (The error was present only in the markup claims).

The Examiner's rejection of claims 1 and the dependent claims 2 – 20 under 35 USC 112, first paragraph, because the specification, while being enabling for a process for microbacterial production of amino acids, allegedly does not reasonably provide enablement for a process using mutation of export carrier gene and regulatory proteins of SEQ ID NO: 2 and SEQ ID NO: 3 respectively, is considered by Applicants to be utterly unreasonable. An expert in the field certainly does not need data and specific details or a demonstration to understand the concept proposed by Applicants.

The Examiner's objections for example that no enablement is provided for the feature "mutating the export carrier gene such that an export carrier with increased export activity is generated" is contradicted. Firstly, the steps given would be absolutely clear to a person skilled in the art. Furthermore, the Examiner's attention is directed to page 5, lines 17 to 20, where it is said that "an increase of the enzyme activity can be obtained for example by an increased substrate consumption achieved by changing the catalytic center or by eliminating the effects of enzyme inhibitors. The methods referred to are the classical mutagenesis of DNA with UV or chemicals. They are laboratory routine procedures to any person skilled in the art. The mutated DNA can be transformed into an export-defective microorganism as described on page 7, lines 14 – 16 of the description (in accordance with J. Bacteriol., 1995, 177, 4021 – 4027).

The resulting transformants carrying a mutated export carrier with increased export activity can be identified by comparison with the export-defective microorganism transformed with the wild-type carrier according to SEQ ID NO: 1. The increased export can be determined in analogy according to example (second half of page 13 to page 14, line 4), that is, by silicon oil centrifugation and high pressure liquid chromatography (J. Chromat. (1983) 266; 471-482).

Reconsideration of the Examiner's rejection of claim 1 on the basis that it does not sufficiently clearly disclose a process using mutation of export carrier genes and regulator proteins for increasing the production of amino acids is respectfully requested.

The Examiner's objections expressed in the fourth paragraph page 4 of the Official Action are not understood. The Examiner's doubts seem to be based on a misunderstanding apparent already from the last Official Action of 05/21/02, page 4, last par., namely that microorganisms are diploid organisms. In this regard, comments have been presented in Applicants' response dated 07/18/02 on page 8, where it has been pointed out that procaryotes are not diploid but haploid organisms.

It appears to be quite clear that the claims clearly define the invention and the claimed subject matter is supported by the description.

As pointed out, these procedures as such are well known to the persons skilled in the art; they are routine, laboratory procedures. Since, furthermore, a concrete possible way of how to obtain export carrier mutants is given, there is certainly not the burden of undue experimentation. Rather, a sufficiently clear disclosure is provided in the description of the present application enabling a person skilled in the art to obtain export carrier mutants.

Reconsideration of the Examiner's rejection of the claims as not being properly supported concerning the mutation of the export carrier gene is respectfully requested.

In the telephone conversation with the Examiner, the Examiner noted that in her opinion all the steps i to iv of claim 1 are required to increase the export carrier activity or the export carrier gene expression to perform the invention. It is pointed out however, that each one of the steps i – iv provides for an increase. It may be expedient to utilize more than one of the steps i to iv but it is certainly not absolutely necessary. The expression "by means of one of the steps i – iv is therefore quite appropriate.

In the last paragraph, on page 6 of the Official Action, the Examiner states that claim 1 lacks essential steps, that is the "insertion of a construct into a vehicle, transformation of cells, cultivation of cells and determination of amino acids". It is noted however that these steps are not essential steps of the method according to the invention but they are routine procedures, which the person skilled in the art will independently execute to perform the steps as defined in claim 1. It is rather pointed out that the essential feature of the present invention for the

microbial production of amino acids resides in providing for an increase in the export carrier activity or the export gene expression of the microbial organism by at least one of the steps i-iv.

The Examiner should certainly be aware of the fact that the inclusion of specific steps in claim 1, which are detailed and not necessary in a particular form for the performance of the claimed method, only increases the possibility to circumvent the claimed invention and it is the object of a claim to define an invention so as to avoid such possiblities. Claim 1, that is, the main claim should therefore not include non-essential steps, but define the claimed method with only the important, necessary steps.

Reconsideration and allowance of claims 1 – 8, 10 – 20 43, and 46 – 48 is solicited.

Respectfully submitted,

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